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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/408,323 | 09/29/1999 | JERRY R. EBNER | MTC6610(39-2 | 3903 |

321 7590 12/30/2004

SENNIGER POWERS LEAVITT AND ROEDEL
ONE METROPOLITAN SQUARE
16TH FLOOR
ST LOUIS, MO 63102

EXAMINER

MAIER, LEIGH C

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1623

DATE MAILED: 12/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/408,323

Applicant(s)

EBNER ET AL.

Examiner

Leigh C. Maier

Art Unit

1623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-244 and 247-300 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-52,79-99,206-229,236-241 and 256-300 is/are allowed.
- 6) ☒ Claim(s) 1-4,6-12,53-65,75-77,100-105,200-205,230-235,242-244 and 247-255 is/are rejected.
- 7) ☒ Claim(s) 5,66-74,78 and 106-199 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date June 2, 2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Status of the Prosecution

Claims 10, 11, 33, 259, 266, and 270 are currently amended. Claims 1-244 and 247-300 are pending.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action. Any objection or rejection not expressly repeated has been withdrawn.

The petition to correct inventorship, filed June 21, 2002, has been approved.

Allowable Subject Matter

Claims 13-52, 79-99, 206-229, 236-241, and 256-300 are allowed. Claims 5, 66-74, 78, and 106-199 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Upon review of the art of record, Applicant's remarks, and the data set forth in the present specification, the examiner agrees that the fact that the catalysts subjected to the instant reducing process have improved resistance to solubilization of the noble metal is an unexpected result. Therefore, the claims reciting limitations clearly correlating with this reduced solubilization would appear to be allowable over the prior art of record. From a reading of the specification and the data in Tables 5 and 7, it would appear that a surface with a C/O ratio of about 20:1 or greater is the characteristic that appears to be the signature for one with reduced noble metal leaching. Also considered unexpected is the low level of noble metal solubilization

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recited in claim 106. Finally, the process comprising the step of depositing a promoter along with the noble metal would be considered non-obvious.

Claim Rejections - 35 U.S.C. § 103

Claims 1-4, 6-12, 53-65, 75-77, 100-105, 200-205, 230-235, 242-244, and 247-255 are rejected under 35 U.S.C. 103(a) as being unpatentable over NITROKEMIA (EP 019445) in view of HERSHMAN et al (US 4,264,776), VAN DAM et al (J. Catalysis, 1991), and CHOU (US 4,624,937).

The invention is as set forth in the previous Office action.

Applicant's arguments filed June 2, 2004 have been fully considered but they are not persuasive.

Applicant contends that NITROKEMIA does not teach all the elements of the invention. That was acknowledged in the Office action. Applicant further argues that HERSHMAN discourages the use of noble metal on carbon due to the leaching problem. However, the reference does exemplify its use in Table 2, so one of ordinary skill would be apprised of its utility.

Applicant further argues that VAN DAM does not the method using hydrogen gas. However, the product is not necessarily defined by its method of production. In claim 1, for example, the relevant limitation is the CO yield. The examiner does not find data in the specification that specifically correlates this level of CO yield (as opposed to the level recited in claim 5) with decreased noble metal leaching as discussed for the C/O ratio, as discussed above. However, the examiner acknowledges that in view of the large amount of data in the

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specification, this may have been overlooked. Applicant is invited to cite the relevant data, if this is the case.

Applicant contends that CHOU does not teach or suggest the use of a noble metal on carbon. However, it is known from the art that the reaction is accomplished by either activated carbon or a noble metal on carbon. Therefore, one of ordinary skill would be motivated to use a noble metal on carbon for its known utility. The artisan would also be concerned with the state of the surface of the carbon from the teaching of CHOU and would be motivated to remove surface oxides according to the procedure taught in the reference.

As discussed above, the examiner agrees that one of ordinary skill would not expect this oxide-removing procedure to solve the problem of noble metal leaching.

With regard to the claims drawn to a continuous reaction, upon reconsideration, it is the opinion of the examiner that an additional reference is not necessary to teach this limitation. It is known from CHOU that continuous oxidations with heterogeneous catalysis are known. Further NITROKEMIA teaches the reaction in a continually shaken tank reactor. It would be within the scope of the artisan to select any common industrial reactor, such as a CSTR for such a process with a reasonable expectation of success.

With regard to limitations drawn to having promoters on the surface, activated carbons are known to comprise other metals components. See CHOU, for example. From Applicant's definition of an alloy, it appears that having other metals in proximity with the noble metal would constitute an alloyed promoter. Therefore, in preparing catalysts as taught by the combination of references, one of ordinary skill would produce a product having a promoter, as recited in the claims.

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Double Patenting

Claims 57, 91, 144, 274, and 292 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of USP 6,603,039, as set forth in the previous Office action. Applicant has indicated a willingness to submit a terminal disclaimer, if needed, upon indication of allowable subject matter.

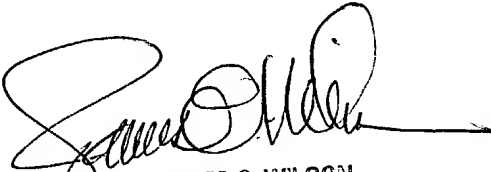
Examiner's hours, phone & fax numbers

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leigh Maier whose telephone number is (571) 272-0656. The examiner can normally be reached on Tuesday, Wednesday, or Friday 7:00 to 3:30 (ET).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. James O. Wilson (571) 272-0661, may be contacted. The fax number for Group 1600, Art Unit 1623 is (703) 872-9306.

Leigh C. Maier

Leigh C. Maier
Patent Examiner
September 17, 2004


JAMES O. WILSON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600